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Chair: Mr. Messone ..... (Gabon)

Contents

Agenda item 50: Effects of atomic radiation

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The meeting was called to order at 10.10 a.m.

Agenda item 50: Effects of atomic radiation (A/67/46)

1. **Mr. Weiss** (Germany), Chair of the United Nations Scientific Committee on the Effects of Atomic Radiation, attending the meeting by videolink from Vienna and accompanying his statement with a computerized slide presentation, introduced the report of the Scientific Committee on its fifty-ninth session (A/67/46). Recalling the mandate of the Scientific Committee, namely, to improve knowledge in the field of assessing the level and effects and risks of ionizing radiation for the General Assembly, the scientific community as a whole and the public at large, he reviewed the different sources of radiation exposure, both natural and artificial, and the different effects of such exposure, whether clinical, hereditary, foetal or cardiovascular. By publishing the results of its studies, the Scientific Committee served to underpin the global system of protection as defined by the standards of the International Atomic Energy Agency (IAEA).

2. In 2012, the Committee's membership had been increased by six States, which meant that its meetings, normally held in May of each year, would now be attended by more than 140 scientists. That increased membership would also lead to lengthier discussions at the meetings but at the same time would bring considerable added value to the Committee's work.

3. He emphasized the need for the Committee to streamline its publishing process, yet without compromising quality, and to enhance the quality of its public information material, and he also encouraged financial contributions to support the Committee's work.

4. Turning to the scientific findings over the previous year, he identified as the key question the attribution of health effects on individuals following exposure to radiation. Certain reactions could be definitively attributed but only at high dosages and after other possible causes had been eliminated. Cancer, in particular, could not be unequivocally attributed to radiation exposure because of the long delay in its emergence and the absence, as yet, of any identified biomarkers for radiation. Increased rates of the incidence of cancer could only be attributed to ionizing radiation if that increase was higher than the statistical uncertainty of the investigation. At a natural background level, it was not possible to attribute increased rates reliably because of the high uncertainties at low dosages. Accordingly, the Scientific Committee strongly discouraged the computation of numbers of such effects following radiation exposures at low levels, such as had been practised following the great east-Japan earthquake and tsunami on 11 March 2011 and the resulting accident at the Fukushima Daiichi nuclear power plant.

5. The Committee was also giving its attention to the uncertainty of cancer risk estimates and their use as the basis for radiation protection. Radiation was much better understood than other carcinogens and the associated knowledge made it possible to quantify uncertainties relating to the analysis of results and their extrapolation to different situations. The Committee's study of such uncertainties had brought it to the conclusion that risk assessments of low dosage exposures were uncertain to a factor of three.

6. He showed a graph demonstrating the certainty with which radiation effects could be detected. The likelihood of such events increased dramatically with the dose: doses of above 5,000 millisieverts (mSv) would result in certain death, while exposures between the range of 1,000 and 500 mSv entailed a high risk of cancer, but that cause could only be definitively established in a large population. Exposure at 100 mSv represented the statistical limit for epidemiological study, while at doses below 100 mSv no risk to human population could be detected, although effects on biological specimens were observed.

7. The Committee had commenced its assessment of the doses resulting from the Fukushima accident and had recorded its preliminary findings in May 2012, which it had included in its current report, and would submit its final report to the General Assembly in May 2013. The assessment had involved over 80 experts, who had contributed their services free of charge, and strong channels had been established with Japanese experts working in the area. He also acknowledged with gratitude the contributions to the trust fund for extrabudgetary work, including from other international agencies. Preliminary findings indicated that no radiation health effects on either members of the public or response workers could be observed and, while six workers had died during the first year following the accident, none of those deaths had been attributable to high radiation doses. The maximum dose suffered by children in the area had been around 35 mSv — much lower than that experienced by children after the Chernobyl accident.

8. Looking forward, he outlined the reports which the Committee would finalize in 2013, namely, its report on the radiation effects of the Fukushima accident and a general report on radiation risks and effects on children. The second report had been prompted by the awareness of major gaps in basic scientific knowledge of those effects, revealed by the Fukushima accident. He also outlined four reports scheduled for 2014, whose production had been somewhat delayed by the Fukushima accident and the resulting work, and work planned for 2015.

9. In conclusion, he reiterated that the Committee's work was fundamental to the international radiation safety regime, contributing through national and regional initiatives to a sharing of objective and high quality scientific knowledge in that domain.

10. **Mr. Zhao** Xinli (China) asked whether the Scientific Committee should not also give its attention to the effects of radiation on women, given their particular vulnerability.

11. **Mr. Weiss** (Germany), Chair of the United Nations Scientific Committee on the Effects of Atomic Radiation, said that, while the Committee was indeed cognizant of the pronounced risks of radiation to women, especially pregnant women, those risks were much better understood than the risks to children and the Committee had accordingly decided on the current occasion to focus its attention on the latter. It would of course be prepared to take up the issue of risks to women at a later stage and he invited countries wishing it to do so to request such action when considering the Committee's future programme of work.

12. **Mr. Hallergard** (Observer for the European Union), speaking also on behalf of the acceding country Croatia; the candidate countries Iceland, Montenegro, Serbia and the former Yugoslav Republic of Macedonia; the stabilization and association process countries and potential candidates Albania and Bosnia and Herzegovina; and, in addition, Armenia, Georgia, the Republic of Moldova and Ukraine, said that the assessments undertaken by the Scientific Committee of the effects of radiation on human health and the environment were highly important in improving international scientific understanding of exposure to ionizing radiation. In that context, medical exposure to atomic radiation, which constituted by far the largest source of artificial radiation exposure, was an international priority in efforts to ensure radiation protection.

13. Welcoming the information exchange at the Scientific Committee's fifty-ninth session on the 2011 nuclear accident, he noted with satisfaction the availability of the Committee's extensive experience in the domain of assessing exposure following the accidental release of radionuclides. A number of European Union experts were helping the Committee in that area and he looked forward to its final report on the accident, which would, he hoped, be available for its sixtieth session.

14. Turning to the question of membership of the Scientific Committee, he welcomed the 2011 decision to admit Belarus, Finland, Pakistan, the Republic of Korea, Spain and Ukraine as members and affirmed that the Committee's current programme of work was in line with the European Union's own priorities. The European Union also welcomed the Committee's plan to pursue work on radiation risks and effects on children and believed that current research projects in the European Union would contribute key information to international efforts in that area.

15. Lastly, the Union welcomed work by the Scientific Committee to evaluate epidemiological studies related to environmental sources of radiation at low dose rates, which were in line with the multidisciplinary European low-dose initiative (MELODI) launched in 2010 with support from the European Union.

16. **Mr. Tsymbaliuk** (Ukraine) said that there was a continuing need to compile and examine information about atomic and ionizing radiation and its effects on human health and the environment, given the growing complexity and diversity of that information.

17. Following the accident at the Chernobyl nuclear power plant in 1986, numerous international instruments had been set in place to ensure the highest level of nuclear, waste and radiation safety worldwide. In 2011, however, the international community had had to respond to another nuclear accident, at the Fukushima Daiichi nuclear power plant. Ukraine welcomed the Scientific Committee's resolve to make a comprehensive assessment of the levels of exposure and radiation risks attributable to that accident and looked forward to a complete report on its consequences at the Committee's sixtieth session in 2013. With its unparalleled experience in dealing with

the effects of radiation on human health and the environment and the extensive research which it had conducted into those effects, Ukraine stood ready to contribute to that effort.

18. Ukraine acknowledged progress by the Scientific Committee on assessing levels of radiation exposure from electricity generation; in updating the methodology for estimating human exposure from radioactive discharges, the effects of radiation exposure on children and the biological effects of certain internal emitters; and in evaluating epidemiological studies of environmental sources of radiation at low dose rates, among other topics. It also believed that the Scientific Committee should continue to review advances in the understanding of the biological mechanisms by which human health and non human biota were subject to radiation-induced effects. In that context, it encouraged special international organizations and other relevant institutions to work more closely with the Committee secretariat in establishing and coordinating arrangements for the collection and exchange of data on radiation exposure of the general public, workers and, in particular, medical patients.

19. Ukraine supported the existing proposals for the Scientific Committee's future programme of work, believing that the time had come to initiate the next global survey of medical radiation usage and exposures. It also highlighted the need for wide sharing of knowledge with the general public and, to that end, called on the United Nations Secretariat to continue streamlining procedures to make the Scientific Committee's scientific reports available as open publications, ideally within the same year as their approval.

20. **Mr. Hamed** (Syrian Arab Republic), commending the Scientific Committee on its valuable research, called for greater efforts to promote awareness among both national authorities and civil society in general of the harmful effects of atomic radiation on health and the environment. Recalling the accidents at the Chernobyl power plant in 1986 and the Fukushima power plant in 2011, he observed that such accidents could befall any reactor and expressed concern, accordingly, at the absence of any international supervision over Israel's nuclear facilities, which posed a major potential hazard to neighbouring States and the entire world. That hazard had even been confirmed by an Israeli scientist, one of the founders of the Dimona power plant, who had drawn attention to the age of the facility and maintained that it should have been closed many years previously. With cracks in its walls and its aging cooling towers, the Dimona reactor was a catastrophe-in-waiting. Accordingly, he urged the United Nations to insist that Israel place all its nuclear facilities under IAEA safeguards, in accordance with Security Council resolution 487 (1981), and eliminate its nuclear weapons.

21. He also voiced his country's concern at the dumping of nuclear waste in developing countries or on the high seas, with serious effects on the environment, noting in particular Israel's dumping of such waste in the Syrian Golan Heights, a practice which the world was observing in silence.

22. **Ms. Al-Barwari** (Iraq) said that her country was fully aware of the effects of ionizing radiation, as it had suffered such effects from the use of radioactive pollutants and armaments by previous regimes in Iraq. In response to that hazard, the Government had enacted a number of legislative and administrative measures to limit such emissions, with a view to protecting the population from the effects of radiation in agriculture, medicine and other domains. She stressed that protection of the Earth and the atmosphere was the shared responsibility of all humankind and, in particular, of those developed countries which used nuclear energy and, in that context, commended the United Nations on its efforts to monitor levels of nuclear radiation and the attendant effects and hazards and called on all States causing such effects to cooperate fully with the relevant international agencies. In addition, she expressed the hope that developed countries with experience in eliminating the effects of nuclear radiation would come to the assistance of Iraq.

23. **Mr. Zhao** Xinli (China) said that nuclear energy, with its comparative cleanliness, efficiency and stability, was indispensable to many countries. Yet major nuclear incidents had immense political, economic and psychological consequences for surrounding areas, and also for neighbouring countries and even the planet as a whole. Accordingly, the international community must promote a science-based understanding of nuclear safety, enhance the safety and reliability of nuclear energy and promote its sustainable development in a manner that genuinely benefited populations.

24. At the same time, small-scale harm from radiation often went unnoticed. While there had been a sharp increase in the use of mobile sources of radiation for medical treatment, industrial and agricultural production and scientific research, regulation and capacity-building in preventing and treating associated radiation-related injuries remained far from adequate.

25. For the United Nations to play a more extensive role in ensuring nuclear radiation safety, such safety must be accorded the highest priority. Nuclear energy should only be developed in conditions in which the environment, public health and social harmony were safeguarded. Safety should also be a top priority in all planning, construction, operation and decommissioning of nuclear power plants and in the design, use, transport, storing and dismantling of mobile radiation sources. Safety standards should also be raised: new nuclear power projects must comply with the world's highest standards for nuclear safety. Emergency planning measures must be enhanced: the international community should establish and improve coordination arrangements and set in place standardized and uniform emergency plans in the event of nuclear disasters.

26. In addition, the working arrangements of the Scientific Committee must be improved. With its enlarged membership, the Committee would need to enhance its efficiency, ensure balanced regional representation and meet the needs of the growing number of member States participating in its work. Lastly, it should consider undertaking radiation-related psychological studies, given the substantial and long-lasting psychological effects on societies and individuals of major incidents such as that at the Fukushima nuclear facility.

27. The Chinese Government attached great importance to the safety of atomic radiation and, in the aftermath of the Fukushima accident, had further reinforced its nuclear safety and nuclear emergency preparedness. To that end, Premier Wen Jiabao had initiated discussion of a number of China's major legislative instruments in that area. In addition, the Government had published its 12th five-year plan for nuclear emergencies and was fully engaged in international cooperation in the domain of nuclear safety. In conclusion, he pledged his country's willingness to work towards deeper international exchanges and cooperation to enhance nuclear safety at the global level.

28. **Mr. Díaz Bartolomé** (Argentina) reiterated his country's strong support for the work of the Scientific Committee and expressed appreciation, in particular, for the scientific report on attributing health effects to radiation exposure and inferring the risks, work of vital importance for understanding the epistemology of the highly controversial issue of the effects and risks of low-dose radiation. Noting that the related scientific analysis had been carried out in response to a specific formal request from the Argentine Government, he recalled that it set out preliminary results of a study of the Fukushima accident and reiterated his country's solidarity with the people and authorities of Japan. Argentine experts were actively involved in efforts to help protect the Japanese population from the effects of that accident. His country was also heartened by the finding, in the Scientific Committee's report, that, to date, no effects attributable to radiation exposure had been detected in the health of workers or that of children and other people in the area.

29. Turning to the continued work of the Scientific Committee, he drew attention to the problem of its long-term financing, noting that the extrabudgetary contributions from the Executive Director of the United Nations Environment Programme (UNEP) were insufficient to meet its needs and, in any event, could be seen as compromising the integrity and independence of the Scientific Committee. Accordingly, his Government's policy had been to make substantive contributions to support the work of the Scientific Committee and it urged UNEP to strengthen the Committee's funding, pursuant to General Assembly resolution 65/96 and the draft resolution under consideration at the current session.

30. **Mr. Takahashi** (Japan) said that, as a country with a long-standing commitment to the safety of nuclear technology, Japan had directly benefited from the work of the Scientific Committee and, in the light of the tragic nuclear accident in Japan in 2011, it was all the more cognizant of the critical role played by the Committee in that field. Accordingly, it welcomed the Committee's stated intention to complete at the next session its assessment of the exposure levels and radiation risks attributable to the Fukushima accident and recorded its appreciation for the Committee's work in that area, including the dispatch of experts to Japan in August 2012 to conduct the assessment in cooperation with Japanese experts.

31. Noting the inestimable importance of the safety and security of human beings and the environment in the use of radiation and nuclear energy and of safeguarding public health in the use of radiation for medical purposes, he drew attention to the Fukushima Ministerial Conference on Nuclear Safety, to be held in December 2012 in co-sponsorship with IAEA. Lastly, he reaffirmed Japan's continued commitment and support for the important work of the Scientific Committee.

32. **Mr. Zdorov** (Belarus) said that the authority of the Scientific Committee as a major source of information on radiation effects continued to grow, in particular in the aftermath of the Fukushima accident, which had revealed gaps in knowledge about the threats and risks to populations and the environment of such accidents. The participation of Belarusian experts in the response to that accident had presented a good opportunity for the exchange of first-hand experience in coping with the effects of a nuclear accident. Belarus also hoped to benefit from that exchange in applying new international experience and expertise to its efforts to rehabilitate regions affected by the Chernobyl accident.

33. The rehabilitation and sustainable development of those regions remained a priority for his country and, in that context, he applauded the work by the Scientific Community on that issue. His delegation also noted with gratification the adoption of General Assembly resolution 66/70 of 9 December 2011, extending full membership of the Scientific Committee to, among other States, Belarus, thus recognizing the contribution by Belarus and those other countries to the Committee's work. That expansion of the Committee's membership would help resolve a number of pressing issues on its agenda, including the need to secure additional expertise and funding for its work, without entailing a significant increase in its own budget or an additional burden on the secretariat. Lastly, as one of the sponsors of the draft resolution before the Committee, Belarus was resolved to continue its active participation in the work of the Scientific Committee in all existing and future areas of enquiry.

34. **Mr. Sitnikov** (Russian Federation) said that his country had participated actively in the work of the Scientific Committee since its creation in 1955 and was gratified by the authority which the Committee's substantial reports enjoyed in the scientific world. The Russian Federation welcomed the expansion of the Committee's membership to include six new States and noted, in particular, the valuable contribution that Belarus and Ukraine would bring to the Committee's work, with their experience in tackling the consequences of the Chernobyl accident.

35. He also noted the importance of the Committee's scientific work in the response to the Fukushima accident and stressed the need for the Committee to continue focusing on the analysis of the radiation consequences of such accidents. As one of the countries directly affected by the Chernobyl accident, the Russian Federation attached great importance to nuclear safety and applied the highest international standards in that area, as confirmed by many IAEA missions to Russian nuclear facilities.

36. The Fukushima accident had highlighted the need to strengthen the international legislative framework governing nuclear safety. To that end, the Russian Federation had submitted proposals on removing lacunae in international instruments in that area, including by supplementing the Convention on Nuclear Safety and the Convention on Early Notification of a Nuclear Accident and by improving the IAEA safety standards, and he hoped that its initiative would be widely supported and implemented.

37. **Mr. De Vega** (Philippines) said that, while there were manifest benefits from the use of radioactive materials, particularly in medicine and power generation, that use also entailed risks and hazards and the international community must therefore ensure that the benefits were harnessed in the best interests of all populations. The Scientific Committee had a vital role to play in that endeavour.

38. His delegation commended the Committee's decision to carry out an assessment of the exposure and radiation risks attributable to the Fukushima accident and welcomed the participation in that study of other international agencies with wide-ranging experience and expertise. He stressed the importance of providing timely and accurate information for that study, as had already been provided by member States of the Association of Southeast Asian Nations (ASEAN) and, in that context, called for continuing capacity-building for developing States to strengthen their data gathering and management skills and capabilities. His delegation, however, shared the concern expressed by the Scientific Committee about crowd-sourcing websites,

which, while constituting useful independent sources of information, must be used with great caution.

39. His delegation looked forward with particular interest to the Committee's assessments based on the thyroid monitoring of children and the data to be provided on radionuclide concentrations in foodstuffs and welcomed its undertaking to complete its work on the effects of radiation exposure to children by its sixtieth session. Noting the relative lack of studies of the exposure of non-human biota to radionuclide releases, particularly in marine environments, he called for authoritative studies to be undertaken of that issue and also endorsed the Committee's desire to press ahead with its next global survey of medical radiation usage and exposures.

40. Outlining issues of particular concern to his delegation, he drew attention to occupational exposure to radiation, noting that worldwide some 3 million persons worked in the nuclear industry and the corresponding urgent need to update the minimum standards of exposure. The regulations on the handling and disposal of waste materials in medical facilities should also be updated. Better information management and dissemination were also needed, to allay unwarranted public anxiety over radiation exposure, particularly in emergency situations, and, in that context, his country welcomed the regular publications of IAEA and other United Nations agencies on the topic of atomic radiation and commended the Agency and the Scientific Committee on their websites, encouraging them to make their user interfaces as friendly as possible.

41. Turning to the issue of nuclear safety and security, the Philippines called on States parties to the Treaty on the Non-Proliferation of Nuclear Weapons to comply fully with the provisions of the final outcome documents of the 2010 Review Conference and of other international instruments in that field. The Philippines also called for capacity building in nuclear detection, forensics and response and mitigation at national and regional levels and for strengthened regional cooperation in that area. It also urged IAEA to continue providing assistance to ensure the safe and secure use of nuclear technologies. Lastly, he highlighted the need to review the global framework for emergency preparedness and response, in particular in the light of the Fukushima accident, which had revealed shortcomings in a number of provisions of the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency.

42. **Mr.** Manjeev **Singh Puri** (India) said that the Scientific Committee's report demonstrated the continued high quality of its work and he welcomed the progress made towards finalizing the scientific analysis of the attribution of health effects to radiation and the uncertainties in the risk assessment for cancer due to radiation exposure. He also welcomed the planned formation of an expert group to compile data on discharges during nuclear electricity generation.

43. In that context, reaffirming his country's conviction that nuclear energy was an essential energy source, he stressed the need to address nuclear safety concerns which had been brought to light by the Fukushima accident and which must be resolved to restore public confidence in nuclear energy. India was heartened by the critical analysis of the accident already undertaken by the Scientific Committee to allay public fears end and had provided its own data for that purpose. Observing that the Fukushima accident had diverted the Committee's attention from its original plan of work and strained its budgetary resources, he stressed the need to strengthen those resources and, given the inevitable overlap between various bodies in the United Nations system working on assessments of the accident, for careful coordination among them.

44. Given the authority which the Scientific Committee enjoyed in its field, it was imperative that it take up the issue of the mechanism of radiation action at low doses and dose rates and make public its findings, thereby greatly benefiting the scientific community.

45. Turning to the issue of radiation effects on children, which had been given prominence by the Chernobyl and Fukushima accidents and was also of growing concern with the increased use of radiation on children in medical procedures, he was gratified that the Committee would also be undertaking an assessment of that issue as part of its programme of work. Given that data on medical exposure were not easily available in most countries, he urged the Scientific Committee to work closely with IAEA, the World Health Organization and national health authorities through a global medical exposure survey and pledged his country's cooperation in that endeavour.

46. Noting also that epidemiological studies formed a major source of the Scientific Committee's risk estimates, and given the scarcity of studies on human populations exposed to very low level chronic radiation, he drew attention to the epidemiological and genetic studies carried out in India of populations living in areas of high-level natural radiation. Those studies had indicated that there was no significant increase in the incidence of cancer and no association between high natural radiation levels and birth malformations, such as Down syndrome. In that context, he commended the Committee on its decision to prepare a scientific document analysing the epidemiological studies on low-level chronic radiation exposures from natural and artificial radiation sources.

47. In conclusion, he reaffirmed India's continued resolve to contribute in every possible manner to the work of the Scientific Committee.

Draft resolution A/C.4/67/L.8 on the effects of atomic radiation

48. **The Chair** drew attention to the draft resolution on the effects of atomic radiation and informed the Committee that Armenia, China, India, Italy, Latvia, Monaco, Norway and Peru had joined its sponsors. He confirmed that the draft resolution had no programme budget implications.

49. **Mr. Silberberg** (Germany) introduced the text of the resolution, drawing attention to its salient points and noting the broad agreement on the continuing need for an authoritative scientific body in the United Nations dealing with the effects of atomic radiation, disseminating important information and reacting to new circumstances. The draft resolution endorsed the Committee's intention to complete at its next session an assessment of the levels of radiation exposure and radiation risks attributable to the Fukushima accident and also a report on the effects of radiation exposure on children. Given the pressure on the Committee to take up other issues related to the effects of radiation, requiring additional resources, the resolution also called on all Member States to continue their support for its work, and the large number of States sponsoring the draft resolution sent a strong message of that support.

50. *Draft resolution A/C.4/67/L.8 was adopted.*

The meeting rose at 11.50 a.m.